Stop Wrestling with Your Industrial Manufacturing Big Data

You hear over and over again about process manufacturing companies struggling to make sense out of their process big data. And not just the immense amount of time-series data, but also all the contextual operational data that gets lost in a multitude of business applications, Excel sheets, and emails.

If you think about the struggle of wrestling with your data, especially linking and centralizing it, perhaps images of a WWE or Sumo match come to mind. Maybe it's the late Steve Irwin wrestling an anaconda. Whichever analogy best captures your "Big Data Struggle", the truth is that most companies are faced with this challenge. But how do you stop wrestling with your data and start *really* maximizing its value?

Step into the Ring of Manufacturing Big Data

Big Data comes from many sources. One source is time-series data which is created by continuously recording a value at different time intervals which can be from minutes to hours. Another source is contextual data, which includes information about quality, maintenance events, operational events, environmental conditions, and process

performance. However, since this data type typically resides in external business applications, it is siloed in its own applications and/or teams. So one of the biggest challenges that process manufacturing companies face isn't capturing data, it's with integrating, leveraging, and extracting value from all it.

With the rise in digitalization, figurative wrestling moves are also changing. New IIoT solutions are available that allow companies to fully leverage the value of process manufacturing data and break down silos using machine learning, artificial intelligence, and predictive analytics. These new contenders offer the capability to analyze time-series data and bring in contextual operational information for a 360-degree view of plant production.

New Moves: Self-Service Industrial Analytics

Like a new teammate or opponent, a self-service industrial analytics solution needs to have the right set of features to bring value.

To start, it should be a fully web-based, plug & play solution that delivers value out straight out of the box. It should provide support for a wide variety of historians and allow for the incorporation of non-industrial contextual data in the analysis (such as financial database, maintenance management systems, Laboratory Information Management System (LIMS), out-of-expectation (OOE) results and unstructured data, just to name a few). The right solution also allows process experts to do their jobs better by answering production questions and solving production issues faster.

The right tool allows process experts to:

- Use high speed trend analysis to quickly search and validate production issues, based on embedded artificial intelligence machine learning (AI/ML) capabilities.
- Find root causes for process anomalies rapidly through pattern recognition, a range of statistical capabilities, or through provided recommendations, without the need for building data models.
- Convert multiple periods of good process behavior into fingerprints to monitor operational performance, so in case of deviations, notifications can be sent to personnel to take the appropriate measures.
- Create soft sensors, when physical sensors are not available, in order to analyze, monitor, and predict production performance within its operational context.
- Give each stakeholder a personalized production cockpit to monitor operational performance related to the KPIs they are responsible for.

With these capabilities, a self-service industrial analytics solution allows for more efficient collaboration and knowledge capturing, so you and your team can make better and faster decisions.

Winning the Match

Dealing with such an immense amount of manufacturing process data can frustrating, tedious, and demanding, but when you're able stop wrestling with it, it can have a tremendous impact on your business with a wide variety of benefits such as:

- Cost reductions

- Increased production efficiency and productivity
- Manufacturing forecasting
- Proactive maintenance
- ‘Predict and fix’ capabilities
- Increased team collaboration

The right self-service industrial analytics solution is the metaphorical choke hold you and your team can start using right away. The best part, though, is that unlike wrestling moves, it’s easy to learn and even easier to use.